



Environmental Cleanup Program

ISSUE 26 – October 2004

A QUARTERLY NEWSLETTER REPORTING ON CLEANUP AT BEALE AFB

Year remedies are expected to be in place:

**High-priority sites:
2007**

**Medium-priority sites:
2011**

**Low-priority sites:
2014**

ERP Cleanup Goals

Successful field season keeps Beale AFB on track for year 2007 goal

Beale AFB has taken big steps toward achieving its goal of having remedies in place at all high-priority sites by the year 2007. Site cleanup priorities are set by Beale AFB and California State regulatory agencies based on potential risk.

Of the 22 Environmental Restoration Program (ERP) sites at Beale AFB that are still open, 10 are considered high-priority sites. Cleanup systems are already in place at six of those sites. Designs for cleanup systems or removal actions at the remaining sites are

currently underway.

Major cleanup work undertaken this summer included installing a bioremediation system at Site 10 (see page 2) and constructing a cap over a former disposal area at Site 13 (see page 3). Together these actions are estimated to cost \$4 million.

Beale AFB is on track to meet its goals for medium- and low-priority sites as well. Maintaining the rate of progress and reaching these goals, as always, depends on funding. ✕

Sampling former tank sites requires detective work and ingenuity

Samples were collected from 66 former underground tank locations this summer in an ongoing effort to close 100% of the former tank sites.

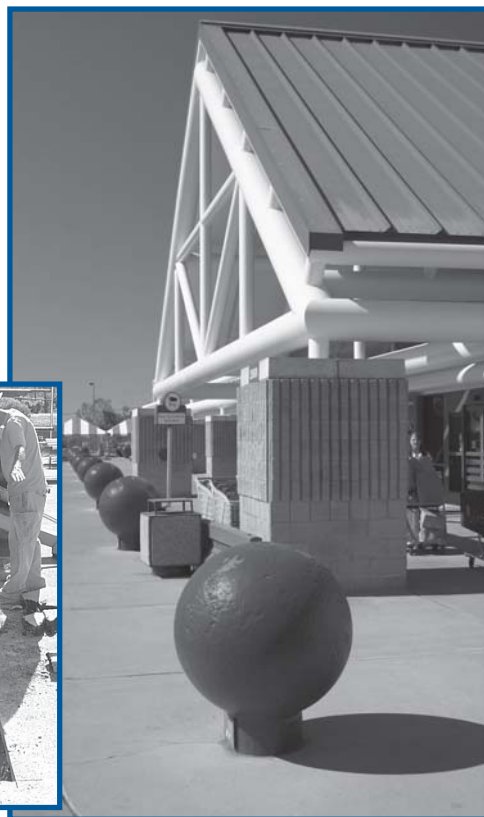
Collecting samples from such sites isn't as easy as you might think. "First we have to identify the former location using as-built drawings and measuring distances from landmarks," explains Larry Kleinicke of Versar, Inc., who is managing the project. Once Kleinicke's crew starts to dig, abandoned piping usually lets them know they've found the correct location.

At one time or another, there were 1,089 underground tanks at Beale AFB that stored petroleum products such as heating oil. By 2000, all the tanks had

Continued on page 2

Near right—Whenever possible, former underground storage tank locations are uncovered using a backhoe. "Looking into an excavation allows us to collect samples of soil with the greatest potential for contamination, such as stained soil or soil near abandoned fill pipes," the project manager points out.

Far right—When former tank locations are near buildings, crews use drilling methods to collect samples. This was the case for samples collected near the commissary. Samples were collected when the commissary was closed.



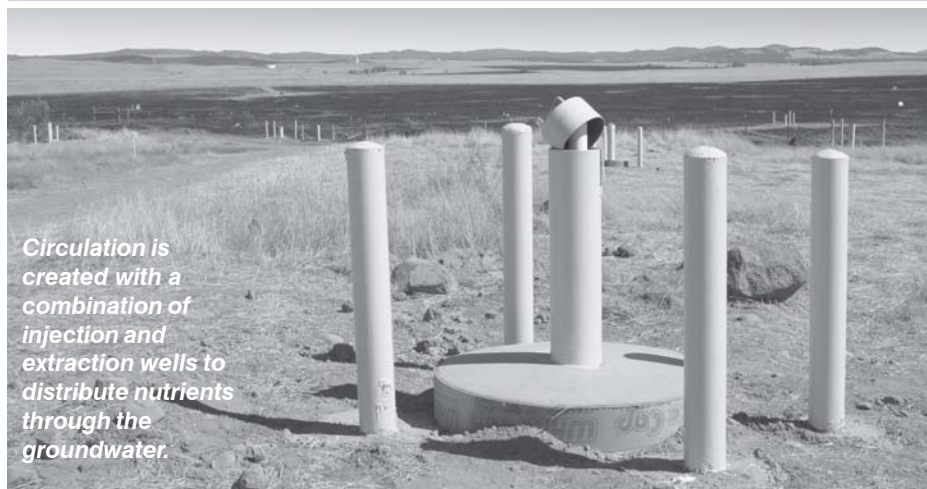
Bioremediation at Site 10 expected to shorten cleanup time



Wells will be connected with aboveground pipes. Initial testing of the system will begin by the end of 2004. Additional wells will be installed next year to increase the efficiency of the system after steady operations are established.

Construction of a bioremediation system at Site 10 began with the installation of over 20 wells. The system is aimed at a portion of groundwater beneath the former J-58 Test Area with the highest concentrations of pollutants (about 12 acres). “Bioremediation is more appropriate for Site 10 than pump-and-treat methods because tightly packed soil in the area makes extracting groundwater difficult. Bioremediation at Site 10 has the potential to significantly reduce cleanup time compared to pump-and-treat—three years compared to decades,” said Martin Barackman, CH2M Hill hydrogeologist for the project. ✂

Bioremediation involves injecting nutrients and/or microbes into the ground. The microbes break down toxic substances giving the natural biological process a boost.



Circulation is created with a combination of injection and extraction wells to distribute nutrients through the groundwater.

Three more sites closed

Following public comment periods this summer, Beale AFB and State regulatory agencies closed three sites:

- Site 19 – an emergency holding basin near a photo-processing lab
- Site 34 – an area now known as the Rod and Gun Club
- Site 36 – a former secured storage area

Cleanup actions have been completed at all three sites. Regulatory agencies agreed that no further action was needed. These findings were presented at a public meeting and in documents available for review. No comments were received. With these closures, Beale has

closed 15 of its 39 Environmental Restoration Program (ERP) sites.

Regulatory agencies are currently reviewing Beale’s recommendation to close Site 24—Former Landfill No. 4.

Notices of public comment periods are published in the *Appeal Democrat* and mailed to addresses on the public participation mailing list. To add your name to the mailing list, contact Mike O’Brien, Chief, Environmental Restoration, Beale AFB at (530) 634-3856. (If you receive this newsletter in the mail, you are already on the mailing list.) ✂

Sampling former tank sites requires detective work and ingenuity

Continued from front page

been removed. The task since then has been to collect additional soil samples to confirm the former tank locations do not pose a threat to human health or the environment. Once this is achieved, regulatory agencies can close a location—that is, decide that no additional samples are needed. Collectively the former tank locations are referred to as Site 22. To date, agencies have closed 962 or 88% of the former tank locations. When results of samples collected this season are analyzed, Beale AFB will request closure for the additional locations that meet closure criteria. ✂

Soil cap completes construction of three-part cleanup plan for Site 13

Mike Wray, CH2M Hill, and Robert Nordahl, Environmental Flight Chief, discuss how vegetating the soil cap and drainages with native plants will minimize erosion.



Top—Soil is excavated from the treated wastewater pond to increase the pond's capacity.

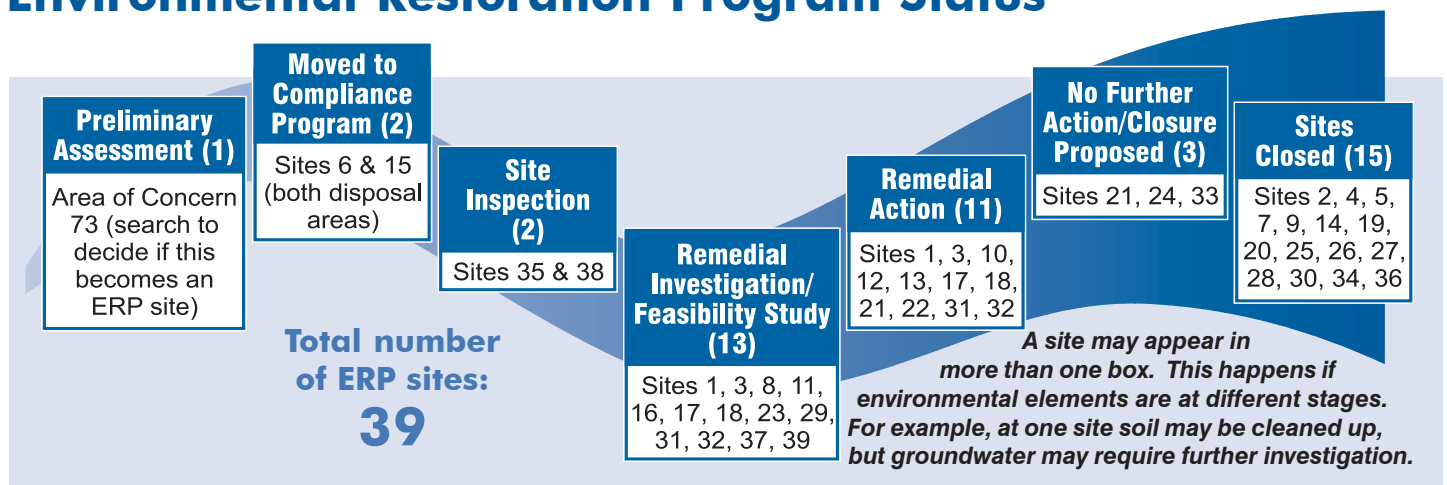
Bottom—The excavated soil is placed on top of the landfill to build the cap. The vertical white pipes in the background are extensions added to the extraction wells so the piping can remain close to the surface for easy maintenance.

When earthmoving equipment arrived at former Landfill 1 this summer, it kicked off two projects not just one. The first involves expanding the holding capacity of the treated wastewater pond; the other project is the construction of a soil cap atop former Landfill 1 (Site 13) to prevent animals from burrowing into the debris.

Soil excavated from the pond was used to build the cap. Coordinating the timing of both projects avoids the cost of having to dispose of soil from the pond and buy soil for the cap, saving the Air Force nearly \$1 million.

The soil cap is the third element of a three-part cleanup plan for Site 13. Other cleanup systems at this location include one that extracts contaminated vapor from soil and another that extracts and treats groundwater. ✕

Environmental Restoration Program Status

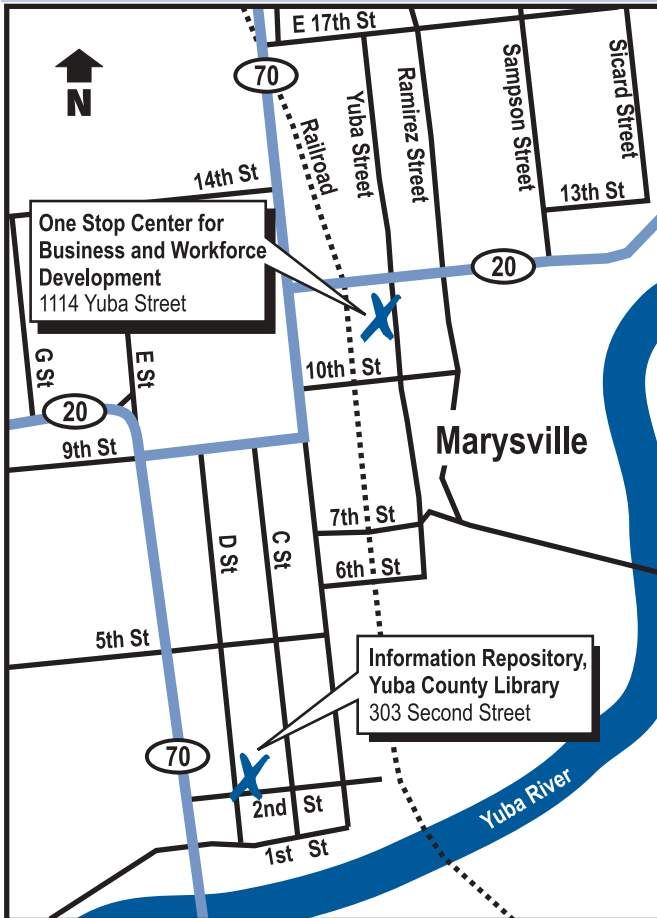


Upcoming Events

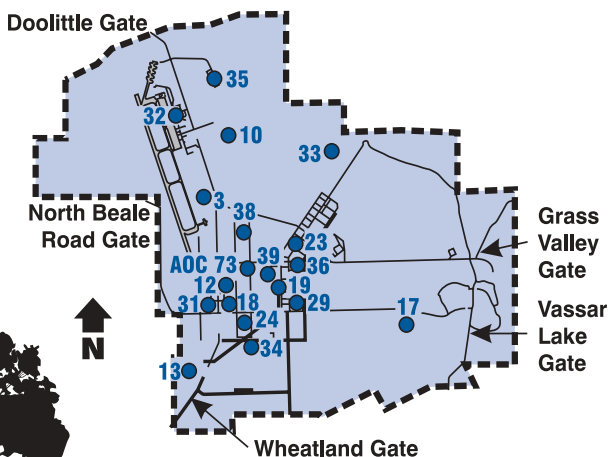
Restoration Advisory Board Meeting/Open to Public

Thursday, November 18, 2004, 6-8 p.m.

The meeting will be held at One Stop Center for Business & Workforce Development, 1114 Yuba Street, Marysville



Sites Discussed in This Newsletter



Meet the RAB

Joy Ames



Restoration Advisory Board (RAB) member Joy Ames has made a career of working for the health and safety of children. Her interest in the environment stems largely from that concern as well.

For many years, Ames was a health educator for the Yuba County Health Department, where she led many child health and safety programs. She initiated the County's programs for providing low-cost and loaner car seats for children.

After retiring, Ames became active in E Center. The "E" stands for education, environment and employment. E Center is an umbrella agency that distributes funds for many programs, including the Yuba-Sutter Headstart, the Migrant Headstart, Mendocino Fisheries and Lake County WIC Programs. Ames currently serves as the chairperson for the board of directors.

Ames joined the Beale RAB in 2000. "I'm really impressed with the Air Force's commitment to clean up sites," says Ames. "I'm also impressed with the working partnership between the Air Force and the RAB—very productive."

Ames and her husband of 28 years live in Oregon House with two dogs, four cats, three goats and one pet chicken. She owns a small antiques business called Time and Again. The business is "one of those things I always wanted to do, and I'm having lots of fun with it." Ames also participates in a reading club and the Red Bud Garden Club.

The Restoration Advisory Board is a forum through which our local communities, the Air Force, and the regulatory agencies work together in an atmosphere that encourages discussion and exchange of information on the environmental cleanup of Beale Air Force Base. The public is encouraged to attend and participate in Restoration Advisory Board meetings.